

TWO BYZANTINE COIN HOARDS
OF THE SEVENTH
AND EIGHTH CENTURIES
AT DUMBARTON OAKS

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PROFESSOR Alfred R. Bellinger published some years ago a Byzantine coin hoard of the empire of Nicaea which was acquired intact by the late Thomas Whittemore and is now the property of the Fogg Museum in Cambridge (Mass.), part of it being deposited on loan with the Dumbarton Oaks Collection in Washington.¹ It seems desirable to put on record the existence of two further Byzantine coin hoards at Dumbarton Oaks, one of the seventh and the other of the early eighth century, although, unlike the Whittemore hoard, they are no longer available for study in their entirety. Only a selection of coins from each is in the Collection, and, though their former owners made notes on their further contents and for one of them some photographs of the absent coins are available, these are not adequate substitutes for the information on weights and stylistic details which access to the whole of the hoard evidence would provide.

I

THE SECOND AYDIN HOARD

(Figures 1 and 2)

The earlier in date and the larger of the two hoards (216 solidi) is said to have been found in southwestern Asia Minor, in the neighborhood of Aydin, the ancient Tralles, in the lower Maeander valley some twenty-five miles from the sea. Since the Archaeological Museum at Istanbul already possesses another hoard of solidi from the same neighborhood, it will be convenient to call the Istanbul one Aydin I and that of which a part is at Dumbarton Oaks Aydin II.² The two hoards end with coins of the second type of Heraclius, issued between 613 and 629, and though the accompanying table shows that they differ in the proportion of coins of Phocas which they contain, they were probably buried at about the same time.

Only fifty-three coins from Aydin II, i.e., no more than a quarter of the coins of which some particulars are preserved, are at Dumbarton Oaks, the remainder having been dispersed or possibly even melted down. Since 216 coins would correspond exactly to the sum of three Roman pounds, there is at least some reason to suppose that the hoard was complete. Its provenance is of course unproved, but one can at least say that its contents are not incompatible with its having come originally from southwestern Asia Minor, like the better doc-

¹ "A Hoard of Silver Coins of the Empire of Nicaea," *Centennial Publication of the American Numismatic Society*, ed. by H. Ingholt (New York, 1958), 73-81.

² The contents of Aydin I are summarized in S. McA. Mosser, *A Bibliography of Byzantine Coin Hoards* (Numismatic Notes and Monographs, No. 67 [New York, 1935]), 8, on the basis of information supplied by Dr. Kurt Regling. I made extensive use of the material in both hoards in my study, "Solidi of Phocas and Heraclius: the Chronological Framework," *Numismatic Chronicle*, 6th ser., 19 (1959), 131-49.

umented Aydin I. In composition it is extremely homogeneous, consisting almost entirely of solidi of Phocas (602–10) and of the first two types issued during the reign of Heraclius (610–41). If the hoard dates from 615 (see *infra*), over 90 per cent of the coins must have been struck within the decade previous to its burial—98 per cent within the preceding thirteen years—which explains why they are for the most part in a virtually unworn condition.

Coins in Aydin I and Aydin II

| | Aydin I | Aydin II |
|---|---------|----------|
| Anastasius I (491–518) | I* | |
| Tiberius II (578–82) | | 2 (2) |
| Maurice (582–602) | | 2 (2) |
| Phocas (602–10) | I | III (22) |
| Heraclius (610–41) | | |
| Class I (610–13) | 5 | 25 (8) |
| Class II (613–29) | 52 | 76 (19) |
| | 59 | 216 (53) |
| * A tremissis. The figures in parentheses in the second column are those of the specimens at Dumbarton Oaks. | | |

In the description of the hoard that follows, an asterisk against the number indicates that the coin is at Dumbarton Oaks, and “as last,” unless qualified in some way, implies that the coin is similar in type and style to the preceding coin and has the same officina letter, but is struck with different dies. The division into classes follows that of my article on the solidi of Phocas and Heraclius referred to above. References to “Wroth” indicate the British Museum Catalogue of Byzantine coins.³ The die positions are always ↑↓.

TIBERIUS II (578–82)

Wt.
(in grams)

- *1. *Obv.* ΔΜΤΙΒCONS ΤΑΝΤΡΡΑΥC. Armored bust facing, wearing shield and crown w. circular ornament and cross, holding globus cruciger. (End of inscr. obscured through double-striking).
Rev. VICTORI AAVCCЄ. Cross potent on four steps; below, CONOB. 4.48
- *2. As last, but officina letter Z. 4.48

MAURICE (582–602)

- *3. *Obv.* [O]NMAVRC ΤΙΒΡΡΑΥC. Armored bust facing, wearing cloak and plumed helmet and holding g.c.
Rev. VICTORI AAVCCB. Angel facing, holding long cross w. looped top and g.c. 4.44

³ W. Wroth, *Catalogue of the Imperial Byzantine coins in the British Museum* (London, 1908).

- *4. As last, but [ON $\overline{\text{M}}$ AV]. There are some graffiti scratched on the obv.,
apparently the letters H A. 4.35

PHOCAS (602-10)

Class II

No pendants on crown; obv. inscription begins ON;
rev. inscription ends with AVCC and officina letter

- *5. *Obv.* ONFOCAS PERPAVC. Bearded bust facing, wearing armor, cloak,
and crown with circular ornament and cross, holding g.c.
Rev. VICTORI AAVCCA. Angel facing, holding long cross w. looped top
and g.c. 4.49
- 6,7. As last.
- *8. As last, but off. letter B 4.35
- 9-12. As last.
- *13. As last, but off. letter Γ . 4.40
14. As last.
- *15. As last, but off. letter Δ . 4.39
- 16, 17. As last.
- *18. As last, but off. letter ϵ . First part of rev. inscr. illegible. 4.48
- 19-21. As last.
- *22. As last, but off. letter S. 4.48
23. As last.
- *24. As last, but off. letter Z. 4.47
- 25,26. As last.
- *27. As last, but off. letter H. 4.43
- 28,29. As last.
- *30. As last, but off. letter Θ . 4.42
- 31,32. As last.
- *33. As last, but off. letter I. 4.46
- 34-36. As last.

Class IV

No pendants on crown; obv. inscription begins δ N;
rev. inscription ends with AV η η and officina letter

- *37. As last, but obv. inscr. begins δ N instead of ON and rev. inscr.
reads VICTORIA AV η η A. 4.51
- 38,39. As last.
- *40. As last, but off. letter B. 4.40
- 41,42. As last.
- *43. As last, but off. letter Δ . The die-cutter seems to have started to
make some other letter, apparently ϵ , and then corrected himself 4.52
44. As last.
- *45. As last, but off. letter ϵ . 4.49

- 46-70. As last.
 *71. As last, but off. letter Z. 4.46
 72-74. As last.
 *75. As last, but off. letter H. 4.36
 *76. As last, but off. letter Θ. 4.46
 *77. As last. 4.47
 78-82. As last.
 *83. As last, but off. letter I. 4.34
 84-107. As last.
 108-111. As last, off. letter illegible. These coins are noted as having been identical in style with the others, giving the imperial bust a rather prominent neck differentiated clearly from the background.

Class IV, var.
 With N in rev. field

- *112. As last, but N in right field on rev. and off. letter Z. 4.48
 *113. As last, but off. letter I. 4.49
 114. As last.
 *115. As last, but δNN instead of δN. 4.45

HERACLIUS (610-41)

Class I

Bust of Heraclius (with short beard) alone (610-13)

(a). Inscription hERACLI PER. Cross potent on two steps

- *116. *Obv.* δNNhERAC LIPERAV. Bearded bust facing, wearing plumed helmet, armor, and cloak, and holding g.c.
Rev. [VICT]ORIA AVḡḤ. Cross potent on two steps; below, CONOB. 4.47

(b). Inscription hERACLIḡS PP. Cross potent usually on three steps

- *117. As last, but ONhERACL[I] VSPPAVC. Cross potent on three steps, and off. letter A. (Part of the CL and the whole of the I of hERACLI are off flan. The V has the left-hand stroke curved, but is closer to V than to ḡ). 4.50
 118, 119. As last.
 *120. As last, but δNhERACL IVSPPAC. Cross potent on two steps, and off. letter Ḥ. (The V is closer to V than to ḡ). 4.37
 121, 122. As last.
 *123. As last, but [d]NhERAC LIḡSPPA. 4.47
 *124. As last, but δNhERACLI ḡSPPAVC. Cross potent on three steps. The first part of the obv. inscription is barely legible. 4.44

- ### Class II

(a). Crown flat or only slightly convex, surmounted by cross without circular ornament

- Var. of distinctive style with exergual line below busts

- (b). As var. (a) but N in rev. field

- *180. As nos. 141-74, but N to r. in rev. field, off. letter $\in (\text{ddNNh} \in \text{RACLIQS} \text{/////CONSTPPAV})$. 4.42

- *181. As last, different dies (ddNNhERACLI4SEThERACONSTPPAV). 4.46
 182-192. As last, various dies.

(g). Crowns convex, surmounted by circular ornament and cross

- *193. As nos. 141-74, but diff. crown, bust of H. C. very large, off.
 letter Γ. Possibly an intruder. 4.38
 *194. As last, but bust of H. C. small, off. letter €. 4.45

(i). Same crowns, l in rev. field

- *195. As no. 194, but l to r. in rev. field. (/////4SEThERACONSTPPAVC). 4.41
 *196. As last, diff. dies (ends CONST ///; the € in *et* has the form E). 4.45
 197-216. As last, various dies.

The mints of the gold coins were not at this period identified by any particular mint-mark, CONOB having lost its specific association with Constantinople and being used also at Carthage, Ravenna, and Rome in the west, and at such provincial mints as may have struck gold in the east.⁴ The solidi of Phocas and Heraclius in Aydin II are for the most part extremely uniform in style, and there can be little doubt that they are from the mint of the capital. The two solidi of Maurice are both of the variety with narrow imperial bust, not of that with a broad one, but whether these variations result from differences in date or differences in mint is as yet uncertain; a case can be made for assigning those with broad bust to the mint of Antioch. There were no light-weight solidi in the hoard, neither those of the classes studied by Adelson nor the 23-carat solidi marked by a star in obverse and reverse fields subsequently identified by Leuthold⁵. Though the hoard contained a number of coins with l or N in the reverse field, their presence does not help us to discover the meaning of these sigla.

The only exceptions to the stylistic uniformity of the coins are nos. 143, 175-9, and—though in a different fashion—no. 193.

Nos. 175-9, which have squat and rather crudely designed busts with an exergual line beneath them, I have discussed elsewhere.⁶ Their stylistic peculiarities and the abnormal terminal letters of their reverse inscriptions—IX or Π, as well as the more normal l—mark them as a distinct group. They are also closely die-linked; nos. 175 and 176 share a common obverse die, thus linking

⁴ ALCEZOB appears exceptionally on some solidi of Justin II struck at Alexandria. There is one in the British Museum, acquired since the publication of Wroth's catalogue, and a second from the same dies in the collection of Sig. Enrico Leuthold at Milan.

⁵ Howard L. Adelson, *Light Weight Solidi and Byzantine Trade during the Sixth and Seventh Centuries* (Numismatic Notes and Monographs, no. 138 [New York, 1937]); E. Leuthold, "Solidi leggieri da XXIII silique degli imperatori Maurizio Tiberio, Foca ed Eraclio," *Rivista italiana di numismatica*, 62 (1960), 146-54.

⁶ *Op. cit.*, 146-7. On p. 147 Aydin is inadvertently described as being in southeastern instead of southwestern Asia Minor. The curious use of the exergual line below the busts suggests that the die-sinkers were copying a square painting showing the busts of the two emperors and did not venture to continue the robes below what this actually showed.

the terminal letters I and IX, and Mr. Whitting has recently published a die-link between IX and III.⁷ The ending IX also occurs on a variety of the first type of Heraclius on which he is shown with a long beard like that of Phocas and since this can be assigned with fair confidence to the mint of Alexandria, it is reasonable to suppose that nos. 175-9 belong to Alexandria also. Only hoard evidence from Egypt could really decide the matter, and so far none is available.

No. 143, with terminal letter A, is also anomalous in style, and Mr. Bellinger in his forthcoming first volume of the catalogue of the Dumbarton Oaks coin collection attributes it to Alexandria along with nos. 175-9. The coin has certainly close affinities with these, notably in the coarse treatment of the rather prominent hair and the height of the crown and of the cross above it. On the other hand, there is no exergual line, the bust has not the squat appearance of the "Alexandria" group, and the terminal letter A does not seem to occur on any coins which definitely belong to the latter. I am therefore inclined to see in it the work of an incompetent die-sinker at Constantinople rather than the product of a different mint, while not denying the possibility that it may eventually turn out to be the latter.

The other anomalous coin, no. 193, is more important, since, if it is really part of the hoard, it would vitally affect the dating both of this and of the phases of Heraclius' Class II coinage.

When discussing the latter some years ago, I argued that the coins on which the crowns of the two emperors had a simple cross were earlier than those on which the cross surmounts a circular ornament,⁸ and those of the latter class on which the figure of Heraclius Constantine is very small are obviously earlier than those on which he is larger. Class II as a whole can be dated 613-29, but any more precise division within it can be little more than guesswork. I suggested that the transition from crown-with-cross to crown-with-circular-ornament-and-cross should be placed *ca.* 616, mainly because the second variety appears in fair quantity in Aydin II, and that since the latter still contains many coins of Phocas, it cannot be placed very late in the reign (*ca.* 617-8?). The presence of no. 193 is an obvious difficulty, since, with a large bust of Heraclius Constantine and a cross potent of quite different proportions on the reverse, it can scarcely be earlier than the 620's. Its divergences from the rest of the hoard are so great that I feel it should be written off as an intruder. Solidi of Heraclius are so common that it could easily have been accidentally interchanged with one of an earlier type while the hoard was in commerce.

A slightly different basis for classifying the solidi of Class II is proposed by Mr. Bellinger in his forthcoming Catalogue. He points out that the distinction between cross-on-crown and cross-and-circular-ornament-on-crown is not an absolute one. On some coins which belong to the first group the cross is above a

⁷ P. D. Whitting, "An Heraclius die identity," *Spink's Numismatic Circular*, 72 (1964), 134. There is a similar die-link at Dumbarton Oaks.

⁸ I followed Wroth in calling this ornament a globus cruciger, but Bellinger rightly points out that it cannot have involved a "globus" and that "circular ornament with cross" (or "surmounted by cross") would be more appropriate.

small circle placed between the upper and lower borders of the crown but not extending outside these, as it does in the second group; it is fairly evident, indeed, that it was from this design that the distinctive feature of the second group developed. He prefers to use as a criterion the actual shape of the crown, and proposes a division into three groups: (a) flat crown, with small bust of Heraclius Constantine, probably dated 613–23, (b) convex crown, still with small bust, probably 624–5, and (c) convex crown, with large bust, dated 626–9. The dating of the transition from small to large bust would have taken place when Heraclius Constantine attained the age of fourteen, which he did on 3 May 626.

This classification has an advantage over mine in distinguishing between coins on which Heraclius Constantine is shown small and those on which he is large, though this can equally well be done within the framework of my cross-and-circular-ornament-on-crown group. It is less clear that the distinction between “flat crown” and “convex crown” is preferable to that between “cross-on-crown” and “cross-with-circular-ornament-on-crown.” If the latter two designs are not sharply differentiated from each other, neither are the former, for the crown is sometimes so slightly curved that one is uncertain as to the group to which it should be assigned. Both divisions are in any case artificial; we are dealing with a mass of small varieties produced by a number of different die-sinkers, and though we can see the broad lines on which the design evolved, it is unlikely that the engravers were directed at any given moment to abandon one form and replace it by another. Even by Mr. Bellinger’s classification all the coins in Aydin II belong to his group (a) with the exception of no. 193, which is group (c), and if his dating of this is correct, it strengthens the case for regarding the coin as an intruder.

This still leaves undetermined the date at which the “circular ornament” below the cross appeared as a fully developed element in the design of the crown,⁹ and it is worth approaching the problem from another angle. Both Aydin I and Aydin II belong to the earlier of the two large groups of hoards from provinces bordering the eastern Mediterranean which marked first the Persian and then the Arab invasions. Some of these hoards were no doubt of local origin, but since others are likely to have been buried by refugees from other provinces already attacked or occupied, their evidence in some respects must be used with caution. So far as Asia Minor is concerned, one can reasonably attribute to the first series of invasions the burial¹⁰ of the two Aydin gold hoards and a bronze hoard found at Sardis,¹¹ together with the burial of two

⁹ This, of course, refers merely to the development of the design within the framework of Class II of Heraclius, not to the evolution of the crown as a physical object or to its representation on Byzantine coins in general. A crown having a circular ornament and cross had already appeared on the coinage of Tiberius II in the previous century.

¹⁰ One commonly speaks of “burial” where “failure to recover” would be more precise. Coins have always been buried for safety. It is only in time of war or other disturbance that the proportion buried, and, still more, the proportion of those not recovered by their owners, will be much larger than usual.

¹¹ *Sardis*, XI. H. W. Bell, *The Coins* (Leiden, 1916), pp. viii–ix, 78ff. D. M. Metcalf, who has recently discussed the hoards of this region and period (“The Aegean coastlands under threat: some coins and coin hoards from the reign of Heraclius,” *Annual of the British School at Athens*, 57 [1962], 14–23), speaks of *two* Sardis hoards, one of 216 coins discovered on 11 April 1912 and another of six

magnificent gold encolpia of the early seventh century found at Adana in Cilicia in 1882.¹²

The two gold hoards cannot on internal evidence be dated precisely, though they were evidently buried between 613 and 629 and nearer the earlier than the later date, but the Sardis hoard (216 coins, two of them half-folles) consisted mainly of folles of Years 1–4 of Heraclius (175 coins) and a few of Year 5 (5 coins).¹³ There can be no doubt that it was buried during Year 5, which ran from October 614 to October 615, and the most likely supposition is that its owner—the hoard had been carefully concealed in a bag beneath a large block of marble—had both hidden it and failed to retrieve it because of the Persian occupation.¹⁴ The literary sources indicate that this took place, if possibly not very thoroughly, in 615. The Persian general Sahên is stated by an Armenian historian to have devastated Cilicia during the year following the capture of Jerusalem (May 614),¹⁵ and the Paschal Chronicle says that it was in 615 that he reached Chrysopolis and Chalcedon on the Asiatic shore of the Bosphorus, from where he negotiated with Heraclius.¹⁶ This occupation cannot have been permanent, for dated bronze coins were still being struck at Nicomedia in Years 6, 7, and 8, and only with the last year does an eight-year gap in the issue begin; but the fact that the coinage of Cyzicus ends in Year 5 suggests that Persian occupation further to the west dates effectively from 615.¹⁷ There is, at any rate, a strong case for supposing that both the Aydin hoards were

folles of Heraclius found on 20 March 1913. The latter, however, consists only of coins found fairly close together on the same level; it is not clear that they were lost on the same occasion or can be treated as a hoard. There is another hoard of forty-seven solidi not known to him in the Archaeological Museum at Istanbul. It was found in 1947 at Bakirköy (Makriköy), the ancient Hebdomon, on the Sea of Marmara, three miles west of the Golden Gate of Constantinople, and was apparently buried in 611 or 612.

¹² J. Strzygowski, *Das Etschmiadzin-Evangeliar* (= his *Byzantinische Denkmäler*, i [Vienna, 1891]), Anhang 1 (pp. 99–112).

¹³ This last figure should perhaps be larger, since there were twenty-five coins of the second type of the reign, issued from Year 3 onwards, on which the dates were illegible.

¹⁴ Bell conjectured that the hoard represented the savings of a laborer engaged in quarrying stones from the abandoned Temple of Artemis, which was at that time in regular use as a source of building material, but it may equally well represent the small change put aside for paying such laborers. It is not known what the sum of 215 folles would have been worth at that period in terms of gold. Seventy years earlier it would have represented almost exactly one solidus (210 folles), and the fact that both the Aydin II and the Sardis hoards contained exactly the same number of coins suggests that each was intended to represent a round sum in money of account.

¹⁵ K. Patkanian, "Essai d'une histoire de la dynastie des Sassanides, d'après les renseignements fournis par les historiens arméniens," *Journal asiatique*, 6th ser., 7 (1866), 212. It is not clear which Armenian chronicler is being cited.

¹⁶ *Chronicon Paschale*, A. M. 6123 (Bonn ed., i. 706). Theophanes attributes the capture of Chalcedon to 616, while both Cedrenus and the Latin translation of Theophanes substitute Carthage for Chalcedon. The question is fully discussed in a long note by N. H. Baynes, "The Military Operations of the Emperor Heraclius," *United Services Magazine*, N.S., 47 (1913), 320–1. This fundamental study is unfortunately based entirely on the literary sources and takes no account of the light thrown by Heraclius' coinage on the events of the Persian war.

¹⁷ Nicomedia coins of Years 6 and 7 in *BMC Byz.*, i. 618, and a coin of Year 8 at Dumbarton Oaks; a Cyzicus coin of Year 5 in *Sardis*, no. 905. *Sardis* 907 is stated to be overstruck on a Cyzicus coin of Year 7, which, if correct, would invalidate the statement in the text, but I know of no other evidence for the mint of Cyzicus being open so late. No doubt the Persian "occupation" of Asia Minor was far from complete; cities could have been captured and subsequently abandoned because insufficient troops were available for garrison purposes, and parts of the country, while living in fear of sudden raids, probably never saw any Persian soldiers at all.

buried during 615, not as late as 617/8, in which case the transition from crown-with-cross to crown-with-circular-ornament-and-cross would already have taken place by this year.¹⁸ The natural objection to such an early date is the fact that a great number of solidi of the first variety are known to exist, but this may be merely a consequence of the burial of so many at the moment of the Persian invasion and their consequent survival to the present.

An analysis of the hoard by officinae, as set out in the accompanying table, presents some points of interest.

| Emp. and Class | Officina | | | | | | | | | | | Total |
|----------------------------------|----------|---|---|---|----|---|---|---|---|----|---|-------|
| | A | B | Γ | Δ | Ε | Σ | Ζ | Η | Θ | Ι | ? | |
| Tiberius II | | | | | 1 | | 1 | | | | | 2 |
| Maurice | | 2 | | | | | | | | | | 2 |
| Phocas: Class II | 3 | 5 | 2 | 3 | 4 | 2 | 3 | 3 | 3 | 4 | | 32 |
| Class IV | 3 | 3 | 2 | | 26 | | 4 | 1 | 7 | 25 | 4 | 75 |
| Class IV var. (N in field) | | | | | | | 1 | | | 3 | | 4 |
| Heraclius: Class I | 3 | | | | 16 | | | | | 6 | | 25 |
| Class II | 3 | 1 | 1 | | 26 | | | 2 | 1 | 1 | | 35 |
| Class II var. (N in field) | | | | | 13 | | | | | | | 13 |
| Class II var. (I in field) | | | | | 22 | | | | | | | 22 |
| Not classed (nos. 175-9, 195) | | | | | | | | | | | | 6 |

The coins of Phocas of Class II in the hoard are fairly evenly divided between the ten officinae, but in Class IV there is a sharp contraction in the proportions from all the officinae except Ε and Ι. That this is not an aberration affecting only this particular hoard was shown in my earlier article; the majority of all recorded specimens of Class IV are from the same two officinae.¹⁹ Under Heraclius there was a further contraction, the coins of his Classes I and II coming mainly from officina Ε, with specimens of officina Ι greatly reduced in number. Here once again there is no serious distortion of the general picture.

¹⁸ A date earlier than 616 for the transition has already been suggested by Metcalf, *op. cit.*, 23, on the basis of a possible interpretation of the rather unreliable hoard evidence from Athens.

¹⁹ Leuthold, *op. cit.*, (*supra*, p. 214, note 5), 148, argues that officinae Ε and Ι were *normally* almost twice as active as any of the others. His figures are based on some 2000 solidi, but I have little doubt that a breakdown into individual reigns would show serious distortion of the total through the inclusion of a high proportion—presumably a large hoard—of solidi of Phocas and Heraclius, which are not typical of the rest.

Photographs of other specimens in Class I which I have noted from sale catalogues and from museums and private collections give between two and three times as many coins from Officina € (thirty-two specimens) as from Officina I (thirteen). During the period of Class II the proportion of other officinae increases again, and with Classes III and IV, which are not represented in Aydin II, it is back to normal. This expansion in the number of coins from the other officinae is only just beginning to show in Aydin II, since Officina € still predominated in the early stages of Class II,²⁰ and as a general phenomenon it should be useful in dating hoards buried between 613 and 629. The meaning of the temporary concentration of output in Officina €, and to a lesser degree in Officina I, is unknown.

II

THE SICILIAN HOARD

(Figures 3 and 4)

The second hoard consists entirely of Byzantine solidi of the last decades of the seventh and the first of the eighth century. Since these were all of the mint of Syracuse, it can most conveniently be termed the "Sicilian Hoard," without prejudice to the question of whether it was actually found in Sicily or not. The person from whom the coins were acquired could give no information regarding its original size or provenance, and the fact that coins originated in a particular region is no proof that they were found there. The uniformity of mint and date does at least bear out the statement that they are all from a single source.

The hoard must have consisted of at least forty-six coins, but how much larger it was originally and whether those now known were fairly representative of its original composition cannot now be determined. Twenty-five of the coins were acquired by Dumbarton Oaks. The distribution by reigns is as given in the following table.

| Emperor | Total known | At Dumbarton Oaks |
|-------------------------|-------------|-------------------|
| Constantine IV (668-85) | 3 | 3 |
| Justinian II (685-95) | 1 | 1 |
| Leontius (695-98) | 17 | 8 |
| Tiberius III (698-705) | 23 | 12 |
| Philippicus (711-13) | 2 | 2 |
| | 46 | 26 |

²⁰ Unfortunately the separate figures of the coins in Aydin I from individual officinae are not available. The relatively small number of coins of Phocas in Aydin I would suggest this being later in date than Aydin II, and not contemporary with it as I have assumed in the text, but since the circumstances in which the hoards were put together are quite unknown, one cannot place too much reliance on a difference of this kind.

The Sicilian solidi of this period are distinguished from those of the capital by a number of stylistic peculiarities, such as the use of a linear border instead of a reel one or one of pellets, the deformation of several letters, notably the A, and the presence of one or more of a well-defined group of symbols or letters in the reverse field or at the end of the reverse inscription. The coins are also lighter in weight than the corresponding solidi of Constantinople. Wroth attributed the whole group to Carthage, despite their unlikeness to the "globular" solidi characteristic of this mint, but Ricotti has shown²¹ that they must be attributed to Sicily, and presumably to the mint of Syracuse which we know from the bronze coinage to have been in operation at this time.

The catalogue of the coins which follows gives the Ricotti reference for each, since his listing is the most comprehensive that has been made of the series. The descriptions have been made very brief, since all the coins are illustrated. The die positions are always $\uparrow\downarrow$. There is much variation in the letter forms: B, D, T and V are sometimes square capitals and sometimes b, ð (or P), τ, and ϣ, the A is elongated horizontally and in extreme cases has the appearance of a tall V lying on its side. The E has a greatly elongated middle stroke, but this feature is also found on coins of Constantinople. It is not always possible to distinguish between P and ϣ, the die-sinker having contented himself with a vertical stroke thickened at the top. In reproducing the inscriptions, a dot under a letter indicates a doubtful reading.

Coins marked with an asterisk are at Dumbarton Oaks. The present whereabouts of the others is unknown, the illustrations of them being taken from photographs made by the former owner before the hoard was broken up.

CONSTANTINE IV (668–85)

(a) With his brothers, 668–81. No. 1

(b) Alone, 681–85. Nos. 2, 3

| No. | Obverse | Reverse | Wt. | Ric. |
|-----|---|---|------|-------|
| *1 | Armored and helmeted bust of emp. facing, bearded, holding spear on shoulder δNCO S τ ANS44Γ | Cross potent on three steps between Heraclius and Tiberius; below, CONOB VICTORIA A VV4 +, the cross vertically; 3 pellets after CONOB | 4.52 | 113v. |
| *2 | δNCO S τ [ANS44Γ] Helmet without usual frontal ornament | VICTORIA AVV4K, the last letter vertically. Cross potent on three steps. Below, CONOB | 4.24 | 118 |
| *3 | δNCO S τ ANS4PP Breastplate rendered by crisscross pattern | As last, but Θ instead of K | 4.19 | 118v. |

²¹ D. Ricotti Prina, "La monetazione siciliana nell'epoca bizantina," *Numismatica*, 16 (1950), 26–60.

No. 1 differs from the normal Sicilian specimens of this type in that the terminal symbol of the reverse legend is a cross instead of a vertical stroke with a pellet on either side. It has every appearance, however, of having been originally intended as such a symbol and to have been converted into a cross by a simple joining of the pellets to the vertical stroke. One is tempted to infer that the symbol of a vertical stroke flanked by two pellets is always a cross *manqué*, but since it occurs in this form on several different reverse dies this can scarcely be the case. The coin must be a very late specimen of the group to which it belongs, since the lettering and the style of the bust are very close to those of the final type of the reign. It is unusual in that the "tails" of the diadem flutter, like those on the fifth-century coins which served as its model, instead of projecting more or less rigidly to the left, as they do on most specimens of this class.

No. 2 is important because it allows one to read the final letter of the reverse inscription, which is off the flan on the specimen in the museum at Syracuse and which Ricotti rendered as a pellet.

JUSTINIAN II, first reign (685-95)

| No. | Obv. | Rev. | Wt. | Ric. |
|-----|--|---|------|------|
| | Bust of emp. facing, wearing cloak and holding globus cruciger | Cross potent on three steps; below, CONOB | | |
| *4 | [ΔΙΨΤΙ] ΝΙΑΝΣΥΡΡ | VICTORIA ΑΥΓΥΘ | 4.22 | 124 |

Ricotti (nos. 124-30) records several varieties of solidus of Justinian II, for the most part with letters in the field. This particular one he cites from Wroth, nos. 34, 35 (pl. xxxix. 6). The peculiar blanket-like form it attributes to the emperor's cloak—Wroth was so disconcerted by its appearance that he called it a mantle—is also found on solidi having the terminal letter K on the reverse (Tolstoi 21²² = Ricotti 126) and on copper folles (Wroth 47 = Ricotti 138) and half-folles (Tolstoi 90 = Ricotti 152). Something similar occurs also on the coins of Carthage (Tolstoi 88.)

LEONTIUS (695-98)

Ricotti knew only three varieties of the Sicilian solidus of Leontius, corresponding to nos. 11, 12, and 15 below. His nos. 153 and 154 correspond to Wroth, p. 369, no. 19, and p. 368, nos. 17 and 18, from which he took his references, all three coins being wrongly ascribed by Wroth to Leo III. This hoard greatly increases the number of varieties which are known and makes possible a tentative classification. The number of dies is remarkable—the coins have been struck by fourteen obverse and by sixteen reverse dies—and argues a large mint output.

²² J. Tolstoi, *Monnaies byzantines*, fasc. 8 (St. Petersburg, 1914).

Class I. Nothing in rev. field.

| No. | Obv. | Rev. | Wt. | Ric. |
|-----|--|---|------|---------|
| | Bust of emp. facing, wearing loros and holding akakia and g.c. | Cross potent on three steps; below, CONOB | | |
| *5 | DLEON A4S | VICTORIA A44[4]B (The final B is reversed and placed vertically, not as part of the inscr.) | 4.07 | |
| *6 | DLEO NPEAV | VICTORIA AV44Γ | 4.21 | |
| 7 | Similar, diff. die | Similar, diff. die | 4.16 | |
| *8 | ΔLEO NA44 | Similar, diff. die | 4.09 | |
| 9 | Same die, [Δ]LEO [NA] 4[4] | Similar, diff. die | 4.04 | |
| 10 | Same die, ΔLEO [NA44] | Similar, diff. die, final letter illeg. but probably Γ | 4.14 | |
| *11 | DLEO NAL | Similar, but ends € (Double struck) | 4.18 | 153 |
| *12 | [DLEO] N PA4 | Similar, but ends Θ (inscribed vertically) | 4.16 | 153 bis |
| *13 | DLEO NA4 | Similar, diff. die | 4.11 | |
| 14 | DLEO NPEA | Similar, end of inscr. illegible | 4.11 | |

The last coin in this list figured in a recent sale catalogue (*Münzen und Medaillen A. G.*, Basel, Vente publique XIX [5 June 1959], no. 288), where it is described as overstruck on an Arab dinar. The final portion of the reverse inscription does in fact have the appearance of a thick vertical stroke and two pellets, so that confusion with a Kufic letter is understandable, but Dr. George C. Miles and I have examined photographs of the coin together and concur in the view that they are the result of a damaged die and do not represent an earlier Arab striking.

Class II. With ⚡ and I in rev. field.

| No. | Obv. | Rev. | Wt. | Ric. |
|-----|------------------------|----------------------------------|------|------|
| | As before | As before, but ⚡ and I in field | | |
| *15 | ϢLEO NA19 | VICTORIA AV44Θ (Θ vertically) | 4.14 | 154 |
| 16 | ϢLE NA9 | Same die | 3.93 | 154 |
| 17 | Same die | Same die | 4.12 | 154 |
| 18 | Similar, but ϢLEO //// | Same die | 4.08 | 154 |
| 19 | Similar, but ϢLEN A99 | Same die | 4.13 | 154 |
| 20 | Similar, but DLEN A199 | Same die | 4.02 | 154 |

Class III. With star in rev. field.

| No. | Obv. | Rev. | Wt. | Ric. |
|-----|-----------|--|------|------|
| | As before | As before, star in field r. | | |
| *21 | ϢLE APP | VICTORIA [AV44]B (B reversed and vertically) | 4.14 | |

TIBERIUS III (698-705)

The solidi known to Ricotti fall into five groups according to whether they have in the reverse field nothing, two crosses, I P, H AP, or C I. The last three of these, specimens of which were in Ricotti's own collection, are unrepresented in the hoard under discussion, but a new class, with A in the rev. field, can be added to the list. Dumbarton Oaks also possesses a coin (not from the hoard) with H Λ in the field.

Class I. Nothing in rev. field

| No. | Obv. | Rev. | Wt. | Ric. |
|-----|---|---|------|------|
| | Armored bust of Tiberius facing, holding spear transversely across his body (a) <i>with no officina letter</i> | Cross potent on three steps; below, CONOB | | |
| *22 | ϢTibE RI> 4 | VICTORI> > 444 | 4.10 | |
| 23 | Similar, but diff. die | Similar, diff. die | 4.14 | |

| No. | Obv. | Rev. | Wt. | Ric. |
|-----|---|--|------|------|
| | <i>(b) with ∴ at end of rev. inscription</i> | | | |
| *24 | DTIBERI 4SA V4 | VICTORI◁ A444 ∴ | 4.03 | 158 |
| *25 | Similar, diff. die | Similar, diff. die w. [A4]44 ∴ and CONO | 4.14 | 158 |
| 26 | Same die as 24 | Similar, diff. die, CONOB | 4.09 | 158 |
| 27 | DTIBE RIS > 4 | Similar, diff. die | 4.13 | 158 |
| 28 | DTIBE RIS > 4 | Similar, diff. die | 3.96 | 158 |
| 29 | DTIBER ISA 4 | Similar, CONOB off flan | 3.88 | |
| 30 | DNITIBER IA4 44 | Similar | 4.15 | 158 |
| 31 | Same die as 30 | Same die as 30 | 3.87 | 158 |
| | <i>(c) with C at end of rev. inscription</i> | | | |
| *32 | bTIBE RI A4 On emperor's r. shoulder, T b | Ends C (vertically) | 4.04 | 161 |
| | <i>(d) with C• at end of rev. inscription</i> | | | |
| *33 | Same die | Ends C• (vertically) | 4.09 | |
| 34 | Same die | Similar, diff. die | 3.87 | |
| | <i>(e) with Γ P at end of rev. inscription</i> | | | |
| 35 | DTIBERI AV 444 | Ends Γ P (vertically) | 4.29 | |
| *36 | Same die. | Similar, diff. die | 4.23 | |
| 37 | Similar, diff. die, final letters obscure | Similar, diff. die, off. letter off flan | 4.07 | |
| | <i>(f) with P at end of rev. inscription</i> | | | |
| *38 | DTIBE RI //// | Ends P (vertically) | 4.06 | |
| | <i>(g) with star at end of rev. inscription</i> | | | |
| *39 | [DTIBE]RI AV 4PP | Ends with star | 4.03 | |
| *40 | Similar, but ends 44P | Similar, diff. die | 4.10 | |
| 41 | Same die | Similar, diff. die, most of inscr. off flan | 4.07 | |

Class. II. Two crosses in rev. field

| | | | | |
|-----|-----------------|---------------------|------|--------|
| *42 | 42IBE RI /// 14 | VICTORI > [>] 444 | 4.17 | 162(?) |
|-----|-----------------|---------------------|------|--------|

Class III. A in rev. field

| No. | Obv. | Rev. | Wt. | Ric. |
|-----|-----------------|-------------------------------------|------|------|
| *43 | DΣIBER ISA 494 | VICTORI > > 494, CONOB off flan. | 4.02 | |
| *44 | DΣIBE RIS ///// | VICTORI > > /////, CONOB legible | 4.28 | |

The uncertainty over the identification of no. 42 is due to the end of the rev. inscription being illegible. On Ricotti 162 (= Wroth 13) it is S. It is possible, though not likely, that a final letter on no. 43 is off the flan. The obverse die of nos. 32-4, with the Σ b of the emperor's name on his shoulder, is curious, but the varying patterns of the armor on these coins show how much freedom was left to individual die-sinkers.

PHILIPPICUS (711-13)

Ricotti knew three groups of solidi of Philippicus, (a) with nothing in rev. field or after the rev. inscription, (b) with a star after the inscription, and (c) with P in the field and a star after the inscription. The coins in this hoard are of the first two classes.

| | | | | |
|-----|--|---|------|-----|
| | Bust facing, wearing loros and holding g.c. and eagle-topped sceptre | Cross potent on three steps; below, CONOB | | |
| *45 | JNFIL //// //S 4P | 4ICTORI > > 494 | 3.95 | 174 |
| *46 | JNFILEPI C 4S // Struck with a very worn die, but notably different in style from no. 45. | 4ICTORI > /// * | 3.95 | 175 |

The hoard increases substantially the number of varieties which have been known up to the present, but does not help towards explaining the meaning of the sigla appearing in the field or at the end of the reverse inscriptions. It does, on the other hand, provide metrological information of some significance.

The theoretical weight of the solidus was at this time 1/72nd of the Roman lb., which, if the latter be taken as 327.45 g., works out at 4.55 g. The normal solidus of the mint of Constantinople weighed in practice rather less than this, in the neighborhood of 4.48 g. Whether this was because the figure of 327.45 g. for the Roman lb. is an overestimate, as Naville believed, and the true weight was nearer 322.56 g., or because the coins were deliberately struck light to

cover the cost of manufacture, need not here be discussed.²³ What is relevant is that if we can take 4.48 g. as representing the actual weight of the theoretical twenty-four-carat solidus of Constantinople, those of Sicily were being struck to a lower standard. Ricotti's figures show the Sicilian solidus of the mid-seventh century as weighing between 4.35 g. and 4.40 g., but since several of his sources gave the weights only to the nearest half-centigram, one cannot obtain from these figures a very reliable picture of the extent of the reduction. The fact that the first coin in the hoard just described weighs 4.52 g. is sufficient to show that the traditional figure was still theoretically adhered to in the 670's.

The remaining coins in the hoard are all appreciably below this weight, and the shape of many of them suggests at first sight that they have been clipped. This may be true in some cases, but the edges of most of them do not resemble those of coins which have been clipped after striking; the flans seem to have been cut down before the striking was done, so that the reduction in weight was effected in the mint itself. The existence of such lighter solidi in Sicily has long been recognized, though the exact weight intended for them has not been determined. Ricotti knew the weights of only twenty-four coins for the period 688–713, while the hoard provides forty-three, with the coins in good condition. The fact that nos. 2 and 3 are already of the lower standard would seem to imply that the reduction must have taken place during the reign of Constantine IV, but isolated specimens of Justinian II (e.g., Wroth, p. 337, no. 34) are sometimes 4.48 g. It seems likely, therefore, that the reduction was made under Justinian II, some specimens of Constantine IV having been subsequently trimmed to make them conform to the new standard.

The accompanying table gives the weight distribution of the coins in the Sicilian hoard. Those of Aydin II, which were in an equally good state of preservation, have been added as a basis for comparison. It shows how clearly the two weight standards were differentiated from one another, with the single "heavy" solidus of Constantine IV in the Sicilian hoard separated from all the others. The average weights of the coins in the largest weight groups in the two hoards are 4.13 g. and 4.48 g., so that the reduction amounted to 0.35 g. or approximately two carats (0.38 g.). Ricotti reckoned that the solidus was reduced under Justinian II to about 4.25 g., i.e., that it was struck either seventy-six to the lb. or to a theoretical weight of twenty-three carats, and that under his immediate successors it oscillated between about seventy-seven and seventy-nine to the lb., with weights of between about 4.10 g. and 4.20 g. Intentional changes so frequently made seem unlikely; it is more probable that the weight was simply reduced to about 4.13 g. or a little above it and

²³ Cf. L. Naville, "Fragments de métrologie antique," *Revue suisse de numismatique*, xxii (1920–22), 42–60, esp. 42–6, his "La livre romaine et le denier de la loi salique," *ibid.*, 257–63, and the appendix to his book, *Les monnaies d'or de la Cyrenaïque* (Geneva, 1951), 108–9. The most recent general surveys of the question are by F. Panvini Rosati in his account of the Comiso hoard ("Ripostiglio di aurei tardo-imperiali a Comiso," *Atti della Accademia Nazionale dei Lincei. Serie 8. Classe di scienze morali, ecc.: Rendiconti*, viii [1953], 422–40, esp. 437–40) and the article *libra* in E. de Ruggiero, *Dizionario epigrafico di antichità romana*, 4 (fasc. 30), 951–5.

remained for some years at this figure—later it was much lower—although with a greater tolerance above and below the norm than was customary at Constantinople.

| Wt. interval (grams) | Sicilian | Aydin II |
|-------------------------|----------|----------|
| 3.86–3.90 | 2 | |
| 3.91–3.95 | 3 | |
| 3.96–4.00 | 2 | |
| 4.01–4.05 | 6 | |
| 4.06–4.10 | 9 | |
| 4.11–4.15 | 11 | |
| 4.16–4.20 | 5 | |
| 4.21–4.25 | 4 | |
| 4.26–4.30 | 2 | 1 |
| 4.31–4.35 | | 3 |
| 4.36–4.40 | | 7 |
| 4.41–4.45 | | 14 |
| 4.46–4.50 | | 26 |
| 4.51–4.55 | 1 | 2 |

This does not necessarily mean that the new weight was thought of as twenty-two carats either by the mint authorities or by those actually using the coins. Such a reduction is not an isolated phenomenon in Byzantine numismatics. Gold coins a little lighter than the normal solidus were very widely struck during the sixth and seventh centuries. The explanation of the various standards of imperial light-weight solidi, of which a corpus was compiled some years ago by Adelson,²⁴ is still debated, but the reasons behind the comparable changes effected by the Arabs, and by the Franks and other Germanic peoples of western Europe, are scarcely open to question. The dinar of 4.25 g. replaced the Romano-Byzantine solidus because a weight of 4.55 g. did not fit into the Arab weight system, while a coin of 4.25 g. made exactly twenty Arab-Syrian carats of 0.212 g.²⁵ Similarly, the Roman tremissis of 1.5 g. accorded ill with Germanic weight systems based upon the grain, whether the barleycorn—the later Troy grain—of 0.064 g. or the lighter wheat grain of about 0.050 g.²⁶ It was therefore modified in the Frankish kingdom to a coin

²⁴ Howard L. Adelson, *Light Weight Solidi and Byzantine Trade during the Sixth and Seventh Centuries* (Numismatic Notes and Monographs, no. 138 [New York, 1957]).

²⁵ P. Grierson, "The monetary reforms of 'Abd al-Malik," *Journal of the Economic and Social History of the Orient*, 3 (1960), 241–64, esp. 253–6.

²⁶ The weight to be assigned in the early Middle Ages to the wheat grain as a metric unit is uncertain and no doubt varied from place to place, but it was about this figure. The generally accepted proportion between the barleycorn and the wheat grain as 4:3 would put it at 0.048 g., which was in fact the weight of the later grain (*as*) in the Low Countries, but the Paris grain, which was equally based on the wheat grain, was slightly higher (0.052 g.). The evidence of the Crondall hoard shows that the (Troy) grain of the seventh century was identical with that of modern times, a remarkable testimony to the stability of some of the basic units of measurement.

of 1.3 g. or twenty barleycorns, though the continued use of the carat as a weight unit in Provence and other parts of southern and eastern France resulted in coins of this weight being marked as being of VII *siliquae* (i.e., carats), their nearest equivalent in the Roman system.²⁷ It is probable that some similar adaptation accounts for the reduced weight of the Sicilian solidus, though one cannot as yet say exactly what it was. A coin of 4.13 g. is not obviously related to either of the west European reckonings of the grain or to the later Neapolitan *grano* or *acino* of 0.044 g.

There is one other feature of the hoard that requires comment. Ricotti recorded only three known specimens of Sicilian coins belonging to the second reign of Justinian II (705–11). Two of them (Ricotti 171, 172) were struck immediately after his return to power, before he associated his son Tiberius with him on the throne, and solidi of Justinian II and Tiberius together are conspicuous by their absence.²⁸ Since a follis of the joint reign exists (Ricotti 173), a solidus will probably be discovered in the course of time, but this hoard, which was probably buried in 711 or 712, shows that there is nothing abnormal about Ricotti's figures and that minting must have been virtually suspended in Sicily during Justinian II's second reign. There is no obvious explanation of the fact, for coins of Justinian II and Tiberius were being struck in Sardinia and on the Italian mainland. None of our sources suggests that Sicily was at any time in revolt against Justinian; it was indeed the strategos of Sicily whom Justinian sent to wreak vengeance on the city of Ravenna soon after his restoration, and the same man welcomed Pope Constantine when he stopped in Sicily on his journey to Constantinople in 710–11.²⁹ It may have been that the government of the island was thrown into disarray by the beginning of the Muslim raids. An expedition in 704 captured so much plunder in one of the coastal cities that those taking part in it were said to have received one hundred dinars apiece as their share, and in 705 part of Syracuse itself was for a time in Muslim hands.³⁰ This perhaps led to a temporary suspension of minting, but there is no positive evidence on the matter.

²⁷ That the weight of seven *siliquae* was only an approximation to the weight of the reduced tremissis, not an exact statement of it, is shown by the fact that the full solidus is sometimes marked XX and sometimes XXI, a weight of three reduced tremisses (= 3.9 g.) falling, in fact, between those two figures.

²⁸ It is also possible that Ricotti 171 is wrongly identified, since it does not seem to have had any inscription.

²⁹ *Liber Pontificalis*, ed. by L. Duchesne (Paris, 1886), i. 389–90 (*Vita* of Pope Constantine, 2, 4).

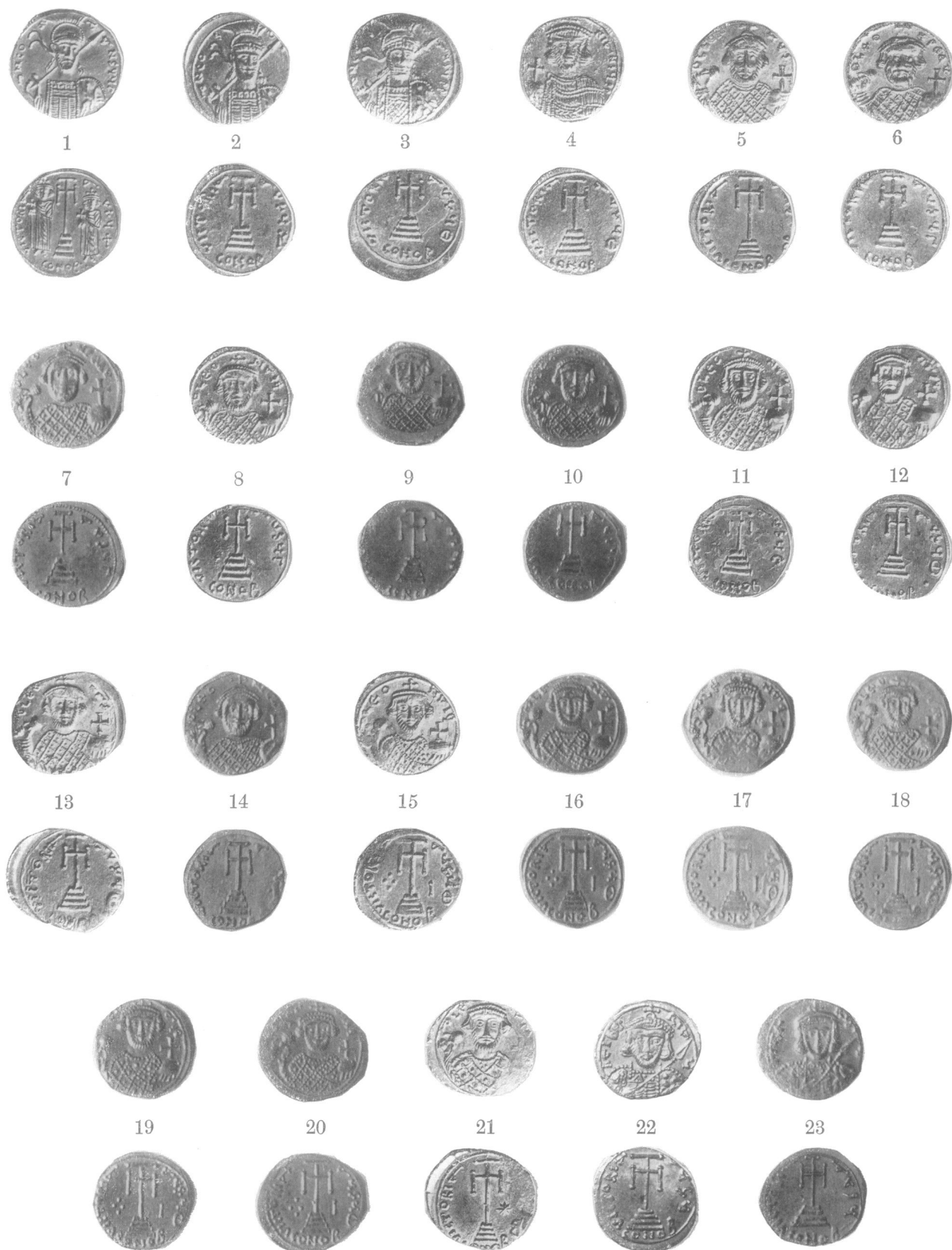
³⁰ Michele Amari, *Storia dei Musulmani di Sicilia*, ed. by C. A. Nallino, 1 (Catania, 1933), 293–5.



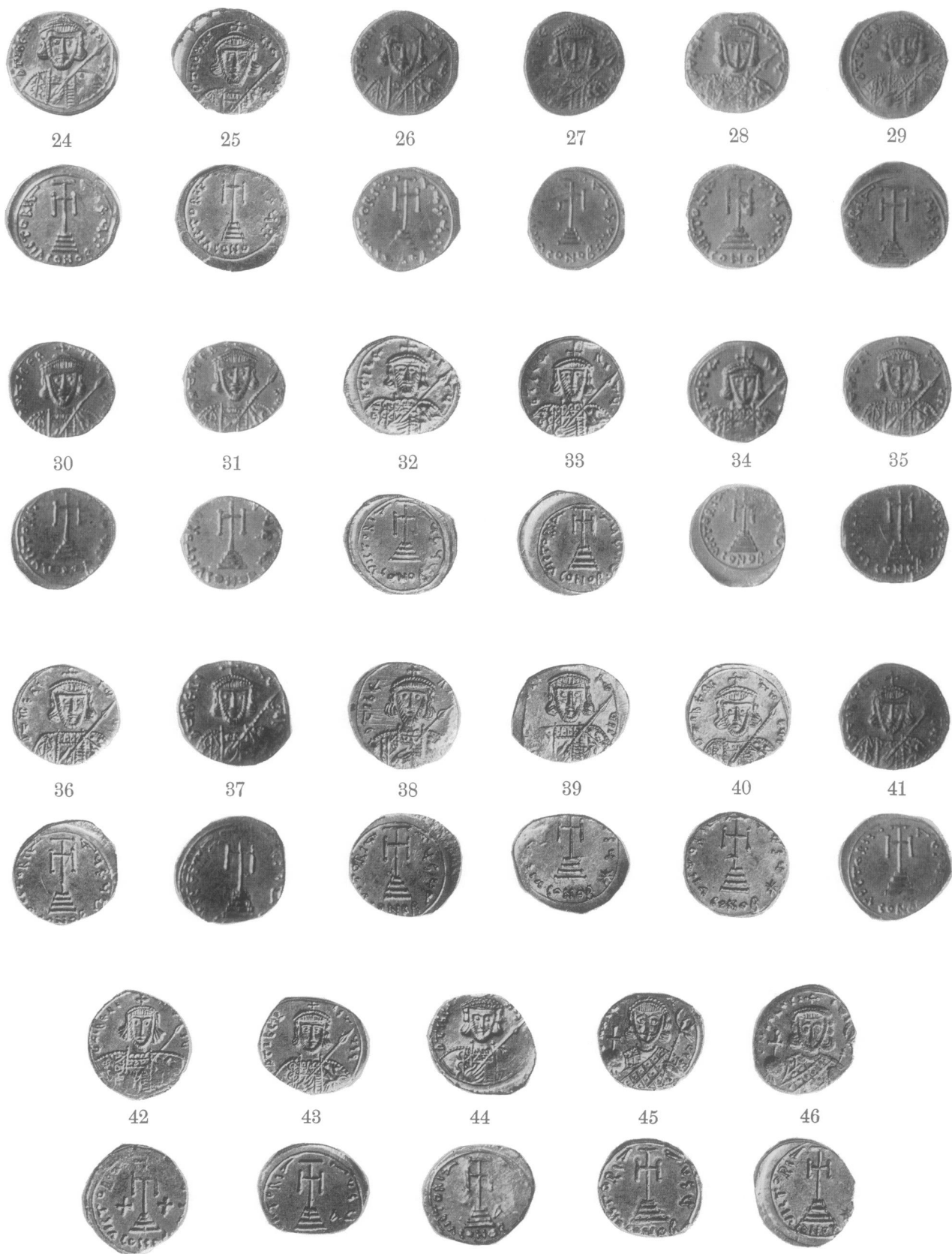
1. THE SECOND AYDIN HOARD (1). Coins of Tiberius II (nos. 1, 2), Maurice (nos. 3, 4), and Phocas (nos. 5–115)



2. THE SECOND AYDIN HOARD (2). Coins of Heraclius alone (nos. 116–140) and of Heraclius with Heraclius Constantine (nos. 141–196)



3. THE SICILIAN HOARD (1). Coins of Constantine IV (nos. 1-3), Justinian II (no. 4),
Leontius (nos. 5-21), and Tiberius III (nos. 22, 23)



4. THE SICILIAN HOARD (2). Coins of Tiberius III (nos. 24-44) and Philippicus (nos. 45, 46)